



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/549,559

04/14/2000

Mats Cedervall

040000-702

9223

27045

7590

08/18/2005

ERICSSON INC.
6300 LEGACY DRIVE
M/S EVR C11
PLANO, TX 75024

EXAMINER

CHANG, EDITH M

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/549,559	Applicant(s) CEDERVALL ET AL.	
	Examiner Edith M. Chang	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-34 is/are rejected.
- 7) ☒ Claim(s) 30 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments/Remarks

1. The new 35 USC 112 2nd paragraph rejections are listed in the following.

Claim Objections

2. Claims 30-34 are objected to because of the following informalities:

Claim 30, line 6: "of noise, interference" should be "of a noise and interference component"; line 8: "a real" should be "a real part"; line 13-14: "noise and interference components" should be "the noise and interference component"; line 26: "the parameters" should be "the filter parameters"; line 29: "a filter process" should be "the filter process".

Claim 31, line 6: "of noise, interference" should be "of a noise and interference component"; line 8: "a real" should be "a real part"; line 13-14: "noise and interference components" should be "the noise and interference component"; line 26: "the parameters" should be "the filter parameters".

Claims 32-34 are dependent on the objected claim 30.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 32-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 32, line 2: "the adaptive order" lacks antecedent basis.

Claim 33, line 2: "wherein estimated models of different orders" does not clearly indicate what are the estimated models of different orders, since in claim 30, *an* order of the filter process *is* chosen.

Claim 34 is dependent on the rejected claim 32.

Allowable Subject Matter

4. Claims 30 and 31 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.
5. Claims 32-34 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or suggest, alone or in a combination, among other things, at least a method of rejection of noise and interference from a received combination signal by estimating a desired signal as a whole, the combination of elements and features, which includes by forming an equation $x(t) = h d(t) + \sum_{k=1}^K A_k n(t-k) + e(t)$ for the received combination signal, where $x(t)$ is the received combination signal with real part $\text{Re}(\tilde{x}(t))$ and imaginary part $\text{Im}(\tilde{x}(t))$ wherein \tilde{x} is complex-valued, $d(t)$ is

Art Unit: 2637

the desired signal, the channel matrix h contains channel coefficients, A represents filter parameters of the noise n , K is the number of the filter parameters, t is a time and e is a white noise vector; selecting the values for the filter parameters A ; the number K of the filter parameters is selected by an order estimation procedure for calculating the filter parameters and an adaptive order estimation procedure is used to choose an order of the filter process or estimating the desired signal by using a suboptimal method as claimed.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M. Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay K. Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

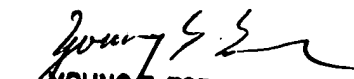
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/549,559

Page 5

Art Unit: 2637

Edith Chang
August 17, 2005


YOUNG T. TSE
PRIMARY EXAMINER